[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0421; Directorate Identifier 2012-NM-042-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 757 airplanes. This proposed AD was prompted by a report of in-flight fracture of the right windshield (window 1) on the flight deck and multiple reports of electrical arcs at the terminal blocks of the flight deck windshields resulting in smoke and fire. This proposed AD would require repetitive inspections of electrical heat terminals on the left and right windshields for damage, and corrective actions if necessary. This proposed AD would also allow for replacing an affected windshield with a windshield equipped with different electrical connections, which would terminate the repetitive inspections for that windshield. We are proposing this AD to prevent smoke and fire in the flight deck, which can lead to loss of visibility, and injuries to or incapacitation of the flight crew.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet https://www.myboeingfleet.com. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Elias Natsiopoulos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6478; fax: 425-917-6590; e-mail: Elias.Natsiopoulos@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2012-0421; Directorate Identifier 2012-NM-042-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received nine reports from eight operators that electrical arcs occurred at the lower terminal blocks of the flight deck windshields. AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), addresses the lower electrical connections. We have also received reports of four failures of upper terminal blocks on Model 757 airplanes. In more than one incident, the arcs resulted in open flames. While in flight, one Model 757-200 series airplane experienced smoke in the cockpit, followed by the fracture of the inner pane of the first officer's windshield (right window 1). This windshield fracture resulted in total loss of the first officer's outside visibility and small shards of glass striking the first officer. Examination of the fractured windshield revealed evidence of arcing at the upper outboard (J1) and the upper inboard (J4) windshield electrical heat terminal connections. The inner pane fracture initiated beneath the J4 terminal block.

The electrical connections on the windshields are made with lugs that attach with screws to the terminal block. A loose connection increases the heat at the terminal, which can cause damage to the internal joints (including solder, if present). Damaged solder joints are the primary cause of the electrical arcs. The primary cause of loose connections is the incorrectly torqued or incorrectly installed screw. This condition, if not corrected, could result in smoke and fire in the flight deck, which can result in the loss of visibility, and injuries to or incapacitation of the flightcrew.

Other Related Rulemaking

On July 6, 2010, the FAA issued AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), applicable to certain Boeing Model 757, 767, and 777 series airplanes, which requires repetitive inspections for damage of the electrical terminal (J5 terminal) at the left and right flight deck window 1 windshield, and corrective actions if necessary. The most forward flight deck windows are referred to as windshields and named left and right window 1 respectively. The actions required by that AD are intended to prevent smoke and fire in the cockpit, which could lead to loss of visibility, and injuries to or incapacitation of the flight crew. Accomplishing the actions in this proposed AD would terminate the requirements of AD 2010-15-01 for Model 757 airplanes.

Relevant Service Information

We reviewed Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); and Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes). This service information describes procedures for repetitive detailed inspections for damage (including, but not limited to, arcing, loose terminals, heat damage, cross-threaded connections, and cracking) of the wiring and electrical terminals J1, J4, and J5 at the left and right flight deck windshields; and corrective actions if necessary.

The corrective actions include applying correct torque to a loose electrical connection, replacing any damaged terminal lug with a new lug, repairing damaged wiring, and replacing an unserviceable windshield with a new or serviceable windshield. Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); and Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes); specify that the replacement windshield can be either a new or serviceable windshield that uses screws and lugs for the electrical connection, or a new or serviceable windshield that uses pins and sockets for the electrical connections.

For airplanes on which a new windshield that uses pins and sockets is installed, Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); and Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes); also specify changing the related wire bundle and cutting the bulb seal to give clearance for terminals on the replacement windshield. This service information specifies that installing a windshield that uses pins and sockets for the electrical connections eliminates the need for the repetitive detailed inspections for that windshield.

Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); and Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes); also specify repetitive detailed inspections for damage of any windshield that is replaced with a windshield that uses screws and lugs for the heat connection, or if a windshield heat power connection is reassembled on windshields that use screws and lugs for the heat connection.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between the Proposed AD and the Service Information."

Differences Between the Proposed AD and the Service Information

Although Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); and Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes); recommend accomplishing certain inspections, window replacement, and reassembly of the electrical connections within 500 flight hours or 150 days, whichever occurs first, we have determined that a compliance time of within 500 flight hours after the effective date of this AD addresses the identified unsafe condition soon enough to ensure an adequate level of safety for the affected fleet. This difference has been coordinated with The Boeing Company.

Costs of Compliance

We estimate that this proposed AD affects 664 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Detailed inspection of windshields	3 work-hours X $85 per hour = $255 per inspection cycle	$0	$255 per inspection cycle	$169,320 per inspection cycle

We estimate the following costs to do any necessary corrective actions that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need these corrective actions.

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Windshield replacement and changes to related wiring including lug replacement	9 work-hours X $85 per hour = $765 per windshield	$19,687 per windshield	$20,452 per windshield

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States,

or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2012-0421; Directorate Identifier 2012-NM-042-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

This AD affects AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010).

(c) Applicability

This AD applies to The Boeing Company airplanes, certificated in any category, as identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Model 757-200, -200PF, and -200CB airplanes identified in Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011.

(2) Model 757-300 airplanes identified in Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 30, Ice and Rain Protection.

(e) Unsafe Condition

This AD was prompted by a report of in-flight fracture of the right windshield (window 1) on the flightdeck and multiple reports of electrical arcs at the terminal blocks of the flight deck windshields resulting in smoke and fire. We are issuing this AD to prevent smoke and fire in the flight deck, which can lead to loss of visibility, and injuries to or incapacitation of the flight crew.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Inspection and Repair

Within 500 flight hours after the effective date of this AD, except as required by paragraph (h) of this AD: Do a detailed inspection for damage of the wiring and electrical terminal blocks (J1, J4, and J5 terminals) at the left and right flight deck window 1 windshield, and do all applicable corrective actions, by accomplishing all the applicable

actions specified in the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes). Except as provided by paragraph (j) of this AD, do all applicable corrective actions before further flight. Repeat the detailed inspection thereafter at the applicable interval specified in paragraph (g)(1) or (g)(2) of this AD. Doing the replacement specified in paragraph (k) of this AD terminates the repetitive inspection requirements of this paragraph for that replaced flight deck windshield.

(1) For flight deck windshields manufactured by GKN Aerospace (GKN) with screw/lug electrical connections, repeat the detailed inspection thereafter at intervals not to exceed 12,000 flight hours or 48 months, whichever occurs later.

(2) For flight deck windshields manufactured by PPG Aerospace (PPG) with screw/lug electrical connections, repeat the detailed inspection thereafter at intervals not to exceed 6,000 flight hours or 24 months, whichever occurs later.

(h) Compliance Time Exception for Previous Inspection

For airplanes on which inspections of the J1, J4, and J5 terminals, as specified in the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 2, dated April 19, 2010 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 2, dated March 31, 2010 (for Model 757-300 series airplanes); were accomplished before the effective date of this AD: Do the actions required by paragraph (g) of this AD at the applicable compliance time specified in paragraphs (h)(1) and (h)(2) of this AD. Repeat the inspection thereafter at the applicable intervals specified in paragraphs (g)(1) or (g)(2) of this AD.

(1) For flight deck windshields manufactured by GKN with screw/lug electrical connections: At the later of the times specified in paragraphs (h)(1)(i) and (h)(1)(ii) of this AD.

(i) Within 12,000 flight hours or 48 months, whichever occurs later, after accomplishing the inspection.

(ii) Within 500 flight hours after the effective date of this AD.

(2) For flight deck windshields manufactured by PPG with screw/lug electrical connections: At the later of the times specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this AD.

(i) Within 6,000 flight hours or 24 months, whichever occurs later, after accomplishing the inspection.

(ii) Within 500 flight hours after the effective date of this AD.

(i) Inspection for Replaced Windshield or Reassembled Heat Power Connection

For any windshield replaced after the effective date of this AD with a windshield that uses screws and lugs for electrical heat connection, or if a windshield heat power connection is reassembled on windshields that use screws and lugs for windshield heat connections: Do the actions required in paragraph (g) of this AD within 500 flight hours after the windshield replacement or connection reassembly, and thereafter at the applicable interval specified in paragraph (g)(1) or (g)(2) of this AD, as applicable.

(j) Exception to Compliance Time for Certain Windshield Replacement

If, during the inspection required by paragraph (g) or (i) of this AD, the screw is found cross threaded: Do the applicable actions specified in paragraph (j)(1) or (j)(2) of this AD.

(1) If the terminal lug is loose and cannot be tightened: Before further flight, replace that windshield, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011

(for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes).

(2) If the terminal lug is tight or can be tightened: Replace that windshield within 500 flight hours after the inspection, in accordance with the Accomplishment Instructions Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes).

(k) Optional Terminating Action

Replacing a flight deck windshield that uses screws and lugs for the electrical connections with a flight deck windshield that uses pins and sockets for the electrical connections, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes); ends the repetitive inspection requirements of paragraph (g) of this AD for that windshield.

(l) Related AD Termination

Accomplishing the actions required by this AD terminates the requirements of AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), paragraphs (g), (j), and (k), for that airplane only.

(m) Credit for Previous Actions

This paragraph provides credit for the actions required by this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 757-30-0019, Revision 2, dated April 19, 2010 (for Model 757-200,

-200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 2, dated March 31, 2010 (for Model 757-300 series airplanes).

(n) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be e-mailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(o) Related Information

(1) For more information about this AD, contact Elias Natsiopoulos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6478; fax: 425-917-6590; e-mail: Elias.Natsiopoulos@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet https://www.myboeingfleet.com. You may review copies of the referenced service information at the FAA, Transport Airplane

Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on April 5, 2012.

Ali Bahrami,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 2012-9916 Filed 04/24/2012 at 8:45 am; Publication Date: 04/25/2012]